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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,003	04/12/2004	Kumiko Hirayama	10873.1429US01	4702
53148	7590	10/06/2006	EXAMINER	
HAMRE, SCHUMANN, MUELLER & LARSON P.C. P.O. BOX 2902-0902 MINNEAPOLIS, MN 55402			KUGEL, TIMOTHY J	
			ART UNIT	PAPER NUMBER

1712

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/823,003

Applicant(s)

HIRAYAMA ET AL.

Examiner

Timothy J. Kugel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 1-16 is/are objected to.
- 8) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/12/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are pending as filed on 12 April 2004. Claims 17-20 are withdrawn from consideration.

Election/Restrictions

2. Applicant's election of the invention of group 1—claims 1-16—in the reply filed on 17 August 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)) and is therefore made **FINAL**.

Claims 17-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 17 August 2006.

3. Applicant's election of aluminum hydroxide as the heat absorbing material and polyethylene terephthalate as the mold release film in the reply filed on 17 August 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicant asserts that claims 1-16 read upon the elected species.

Priority

4. Receipt is acknowledged of papers submitted under 35 USC 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

5. The information disclosure statement submitted on 12 April 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

Specification

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

7. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim that depends from a dependent claim should not be separated by any claim that does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

8. Claims 1-16 are objected to because of the following informalities: Claim 1 recites "provided on at lease one side" and should recite "provided on at lease least one side". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 USC 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-9 and 11-14 are rejected under 35 USC 102(b) as being anticipated by US Patent Application Publication 2002/0037397 (Suzuki hereinafter).

Suzuki teaches a circuit board (¶0002) comprising resin board (¶0117 and Figure 10A-10) a compression functional layer (¶0117 and Figure 10A-60) and a polyethylene terephthalate or polyethylene naphthalate film layer (¶0117 and Figure 10A-22) wherein the resin board comprises a glass epoxy prepreg (¶0044, Figure 1A-100) wherein the compression functional layer may comprise the insulating particle layer (¶0083 and Figures 3A-32 and 3B-32) wherein the insulating particle layer comprises insulating particles (¶0061 and Figure 3B-31) added to the adhesive layer (¶0061 and Figure 3B-

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102') and wherein the adhesive layer comprises a thermosetting resin such as an aramid epoxy or a thermoplastic resin (§0045 and Figure 1B-102 and §0044).

Regarding claim 14, since Suzuki teaches the same composition as claimed, the endothermic temperature of the heat absorbing substance and the softening point of the thermosetting resin impregnated into the insulating material of the Suzuki composition would inherently be the same as claimed.

10. Claims 1-14 are rejected under 35 USC 102(e) as being anticipated by US Patent 7,045,198 (Nakagiri hereinafter).

Nakagiri teaches a prepreg for producing a circuit board comprising a nonwoven aramid reinforcing material impregnated with a filler-containing resin (Column 1 Lines 36-39, Column 3 Lines 39-53 and Column 5 Lines 30-39) wherein the filler can be aluminum hydroxide (Column 5 Lines 40-47) and the base resin can be a film of polyethylene terephthalate or polyethylene naphthalate (Column 6 Lines 35-40) laminated with a second layer of aramid or polyimide (Column 6 Lines 41-43).

Regarding claim 14, since Nakagiri teaches the same composition as claimed, the endothermic temperature of the heat absorbing substance and the softening point of the thermosetting resin impregnated into the insulating material of the Nakagiri composition would inherently be the same as claimed.

The applied reference has a common assignee and one inventor in common with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 USC 102(e). This rejection under 35 USC 102(e) might

be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

11. Claims 1-9 and 11-16 are rejected under 35 USC 102(e) as being anticipated by US Patent Application Publication 2005/0005437 (Nakamura hereinafter).

Nakamura teaches a multilayer wiring board comprising a Layer A and Layer B each comprising a thermosetting resin with 40% or more by weight of an inorganic solid such as aluminum hydroxide (Abstract, ¶¶0090-0101) and a support film and a protective film each comprising polyethylene terephthalate or polyethylene naphthalate (¶0122).

Regarding claim 14, since Nakamura teaches the same composition as claimed, the endothermic temperature of the heat absorbing substance and the softening point of the thermosetting resin impregnated into the insulating material of the Nakamura composition would inherently be the same as claimed.

The applied reference has a common assignee and one inventor in common with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 USC 102(e). This rejection under 35 USC 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

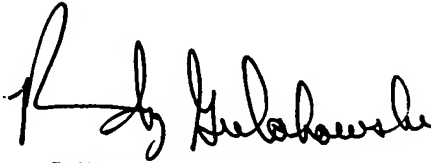
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJK
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